Joint MPH Program
University of Gondar and Addis Continental Institute of Public Health

Assessment of primary school WASH initiatives in influencing the hygiene practices of the students in Lideta sub-city.

By

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Abbreviations

ACIPH – Addis continental institute of public health

CI - Confidence interval

CSA- Central statistics Authority

DHS- Demographic Health Survey

EPA- Environmental Protection Agency

IRC- International Rescue Committee

MDG- Millennium Development Goal

MOH- Ministry Of Health

OR- Odds ratio

SD- Standard Deviation

SPSS- Statistical package for social services

SSHE- School sanitation and hygiene education

UN- United Nations

UNICEF- United Nations children's education fund

WHO- World Health Organization

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Abstract/Summary

Background: Safe water and sanitary facilities coupled with hygiene promotion activities are essential for a healthy learning environment. Unfortunately having access to safe water and sanitary facilities are not only enough but they also need to meet the minimum standard and shall be fueled up by appropriate hygiene behavior by all users (children and staff).

Objective: The general objective of the study is to assess the contribution and influence of proper school WASH initiatives in improving WASH practices among school children in the target area.

Methods: A school based cross-sectional survey was employed in which both quantitative as well as qualitative data collection methods were used so as to assess the impact of school WASH services on the hygienic practices of the school children. Primary school students (1-8 grades) were interviewed using uniform questionnaire and observation guide.

Results: The public and government schools are providing water supply below the standard set by the hygiene and environmental health department of the MOH.Besides, these schools (the government and public schools) do not supply water to the students all day long while the students are in the school. On contrary, the private schools provide water all day long and the numbers of taps are above the standard set by the MOH. Likewise, the quality and condition latrines in these schools is not good enough for better utilization.However,as there are no option, students are obliged to use the latrines.

Conclusion and Recommendations: The study had indicated that the quality of school WASH facilities is one of the factors affecting the hygienic practices of the majority of primary school children.The need for devising a strategy to attain the required hygienic practices shall be the way forward for the schools. Compliance to the WASH standard set by the MOH would be a step forward towards promoting an improved WASH practices among the primary school students.

1. Introduction

Around the world, 2.6 billion people do not have clean and safe place to use for performing their bodily functions (1).Most schools in the developing world are built without sanitation and hand-washing facilities (2).WHO estimates that if both water supply and sanitation facilities are provide, more than 270 million school days per year currently lost to diarrheal infections, would be gained every year if the MDG targets are met (3).

Though there is no prominent episode reported in Ethiopia, the potential hazard that could be posed due to poor hygiene practices coupled with lack of access to water, sanitation and hygiene facilities is worth considering. The sanitation situation in Ethiopia, both in urban and rural areas are among the worst in the world (4).

The school community, comprising the largest portion of the urban population shall deserve a due attention as it is the better place to nurture a generation with better hygienic practices.So,school sanitation and hygiene education shall focus on both the provision of hygiene facilities (latrine, water supply, hand washing facilities, solid waste disposal,etc) and the development of the necessary knowledge,attiude and values that promote better sanitation and hygiene practices in families, schools and communities. Safe water and sanitation facilities coupled with hygiene promotion activities are essential for a healthy learning environment. Unfortunately having access to safe water and sanitation facilities are not only enough. They need to be fueled up by appropriate hygiene behavior by all users (children and staff) is essential to derive the health full health benefits from the facilities. When sanitation and hygiene condition

are poor instead of safe guarding children from the transmission of infections, diseases school environments are full of health hazards, hence education on health and hygiene has go hand in hand with physically safe and well kept hygiene facilities to make schools safe places for children development and influencing of their families(5)

According to Water Aid Ethiopia country information bulletin, Although Ethiopia is well progressing to achieve the universal access to primary education, halving the proportion of people without access to water and sanitation between 1990 and 2015 is currently way off track.

Among all the sub-cities in Addis Ababa, Lideta sub-city is believed to be one of the poorly planned and disadvantaged pockets of the city harboring cocktails of socio-economic problems VIZ low level of water and sanitation access, high rate of unemployment, poor housing structures and the like. Some local studies done by some NGOs working in the area of water and sanitation identified that the majority of the households do share single latrines even to the extent of 10-15 households per a single cubicle. The designs and distance of the latrines are rated to be high in terms of risking the health of all the residents. It is customary to see an overflowing human waste across the main gates of the main houses. The majority of the latrines are the best breeding places for flies which actually get access to the near by kitchens.

In the sub-city, there are about 35 primary schools in which more than 50% of them are public schools. The rest are private and government schools. The total number of students in all these three types of schools is 26,710 (6)

Although the schools are believed to have water sanitation and hygiene facilities serving the school children, there are no sufficient studies made so far so as to assess the impact of the

interventions in improving the hygienic behaviors of the students and their families. Therefore, this study is initiated with the purpose of identifying the gaps existing in the actual WASH interventions among the primary schools in Lideta sub-city and their contributions in impacting the hygienic behaviors of the students and their families.

2. Literature Review

Ethiopia is in a tense struggle to attain the millennium development Goals by 2015.Achiveing universal primary education and greatly impacting sustainable access to safe drinking water and basic sanitation are some of the targets that can benefit the majority of the disadvantaged communities in the country including the schools in the urban slums. The water supply and sanitation of schools in Ethiopia is not well documented and unknown in most cases. Next to family relations, schools are most important places of learning for children. If proper WASH facilities in schools are available, they can act as a model for healthy hygienic practices in the community. Therefore children in such schools with proper WASH facilities can act as agents of change and development (7)

Going to a clean and healthy school environment is every child's right. Many children in developing countries, however, do not have access to safe and clean sanitation facilities in their school. Schools too often suffer from non-existent or insufficient sanitation and hand washing facilities. Schools are not safe for children due to neglect of the operation and maintenance of facilities. Latrines are not always adapted to the needs of children, in particular, girls. Schools cope with broken, dirty, unsafe and even lack of sanitation and hand-washing facilities. Surprisingly enough, latrines are padlocked because children are not trusted` to use them properly. In such instances, schools become unhealthy places where diseases are transmitted easily which actually affects the ability and interest of children to learn and influence their prospects in life. This could be manifested in terms of low level of school attendance and negatively affects students' ability to concentrate and learn due to the diseases which they acquire from their school. Currently, about 40% of the world's 400 million school aged children are infested with intestinal worm. Diarrhea, warm infestation and eye and skin infections are

diseases related to water and sanitations problems in which an estimated 3 million children die from diarrhea each year. Each of 3 common worms (round worms, whipworms, and hook worms) infects more than 500 million people. Like wise, roughly 6 million people have become blind from trachoma, an eye disease (8,)

However, access to safe water and adequate sanitation as well as proper hygiene facilities reduces sickness and death from diarrhea diseases, helminthes (intestinal worms) and other major causes of child morbidity and mortality. The FMOH indicates that inadequate access to safe water and sanitation contributes to 60 % of Ethiopia's disease burden and that dysentery, helminthes, skin infections and trachoma and all water-related illnesses are among the leading causes of children (9)

School sanitation and hygiene facilities, if properly maintained and utilized, improves learning and increases school attendance, particularly of girls but, schools have been neglected and the needs of school children and their voices have gone unheard for too long. There is an urgent need to move from rhetoric to action to ensure that safe water, sanitation and hygiene are provided to all primary schools by 2015.We`can not continue to ignore this target. The goal may appear ambitious, but it can be achieved through collective effort (10)

Many of the schools in Ethiopia, however, do not actually have a proper WASH facilities and the loose link between the schools and the local health offices has often contributed towards low level of healthy hygienic practices among pre-school children.(11)**.**Because water and latrine facilities may not be functional or adequate to the students, the percentage of schools that have adequate water and sanitation facilities is much lower. In the case of latrines, many schools frequently have only one or two latrines most in poor condition for hundreds of students (12)

As we all agree, children are eager to learn and schools are important places of learning for children. A school with good personal hygiene and environmental sanitation interventions facilitates good hygienic practices and long-lasting habits among children during their formative childhood. Despite this fact, however, the presences of sanitation facilities don't equate to use. Among the various driving forces that affect the proper utilization of WASH facilities, the educational level of a mother is an important determinant.52% of children whose mothers had a secondary education or higher disposed of stool hygienically compared to 17% of those whose mothers had no education (13).

In line with accessing the hard ware, school sanitation and hygiene education improves learning and increases school attendance and its effects extend to promote household sanitation and hygiene practices. School sanitation and hygiene education is, therefore, a critical element in the international effort to achieve the MDGs by 2015 (14). School based water, sanitation and hygiene programmes are increasingly used to promote children's participation in vital sanitation and hygiene promotion and the understanding and proper use of these facilities are key factors to improved health outcomes (15)

Broadening its scope, a school is one natural place to initiate improved community sanitation programmes.School children and teachers can help motivate families for improved behaviors as washing hands, keeping drinking water clean and personal cleanness. They can also facilitate interest in sanitation, such as the construction and use of toilets by all people in the family. School sanitation and hygiene education will help children and youth in school to (16)

School sanitation and hygiene education (SSHE) is a very attractive issue, not only from a political perspective but also from a social one. A focus on school satiation affirms the fact that children have a right to basic facilities such as school toilets, safe drinking water, and clean surroundings and information on hygiene. If these conditions are created, children come to school enjoy learning learn better and take concepts and practices on sanitation and hygiene back to their families, especially siblings. In other words, children become the agents of change in the home, in the community and as future parents, and investment in education is more productive. Unfortunately, the premises of school health and hygiene programs haven't been always fulfilled in many courtiers, schools are not safe for children the schools often suffer from non existent or insufficient water supply, sanitation and hand-washing facilities broken, dirty and unsafe facilities, toilet or latrines that are not adopted to the needs of children in particular girls, children with poor hygiene habits and hand washing practices (17)

Simple hygiene behaviors are key to improving health and hygiene promotion is an essential part of water and sanitation programs if the maximum health benefits are to be gained for. It is estimated that washing hands with soap can reduce the risk of diarrhea by more than 40%. (18)**.**Therefore, as childhood is the best time to learn about hygiene behavior and helps to use sanitation facilities for habit formation, schools are considered to be the best entry points for promoting hygiene and sanitation activities for they had a capacity to change the behavior of students as well as the wider comminutes (19)

According to a study reported by WHO, it was commented that human actions are conditioned by the value system and attitudes found in a given society and by the amount and type of available resources at a given time and place (20).

There are close, often obvious, associations between low quality school environments and poor health. Poor WASH interventions are one of the crucial factors for adverse effects on health. By all logic, primary school students should easily avoid actions which are dangerous to health (21, 22)

3. Objectives

3.1 General Objectives

To assess the influence of school WASH initiatives in the hygienic practices of the primary school children.

3.2 Specific Objectives

- To determine the proportion and quality of WASH facilities among the selected public, private and governmental schools.

- To identify factors affecting appropriate use of facilities and maintenance of healthy behavior among the primary school children.

4. Methods

4.1 Study area

Addis Ababa is a city which is extensively expanding in all directions and according to some UN studies, the city has a population that has grown dramatically during the past 2 decades. Migration from the country side in search of job for a better life are one among many other reasons for an increase in the population in the city. As the majority of the migrants and the poor people are concentrated in major slum areas like teklehaimanot, Addis ketema and Merkato areas where the latter being the study area of this study.

The study area was Lideta sub-city, one of the 10 sub-cities in lideta. Among all the sub-cities in Addis Ababa, Lideta sub-city is believed to take the lead in terms of harboring cocktails of socio-economic problems like low level of water and sanitation access, high rate of unemployment, poor environmental sanitation situations coupled with low household income, poor housing, overcrowding and the like. Some local studies done by some NGOs working in the area of water and sanitation identified that the majority of the households do share single latrines among 10-15 households. The designs and distance of the latrines are rated to be high in terms of risking the health of all the residents. It is customary to see an overflowing human waste across the main gates of the main houses. The majority of the latrines are the best breeding places for flies which actually get access to the near by kitchens.

Among the 35 primary school in the sub-city, more than 50% of them are public schools while the rest are private and government schools. The total number of students in all these three types of schools is 26,710.

4.2 Study Design

The study design was school based cross-sectional survey in which both quantitative as well as qualitative data collection methods were employed so as to assess the impact of school WASH services on the hygienic practices of both the school children.

4.3 Source and Study Population

The source population for the study were all the primary school children in the sub city where as the study population are primary school students from the three types of schools mentioned above. A Total of 845 students were involved in the study from the 10 study schools (423,, 253 and 169n students from 5 public, 3 private and 2 government schools respectively).The number of students from the 3 type of schools was determined on the basis of the number of the students attending the schools.

Inclusion Criteria

First cycle students (1 to 8 grade students) who had been a student in the school at least for the past 1 year were eligible to be included under the study. The main rationale to include such criteria was due to the fact that knowledge and practices they acquire in other schools might affect t6heire responses and may distort the result of the study.

Exclusion Criteria

- Night shift students were excluded from the study for two main reasons, the first being their age limits are by far greater than the age range commonly observed in primary schools of Addis Ababa and secondly, the data collection was done on the day time.

4.4 Sample size determination

A total of 26,710 primary school students were enrolled in 35 primary schools in the sub-city. The distribution of these students in all the three types of the schools under the study are clearly depicted in the table below. A 25% of the schools in the sub-city were selected for 4 main assumptions:

- As all the 3 types of schools are assumed to be of homogenous among themselves, investing all the resources to study 100% coverage was recognized to be a futile exercise.
- As the purpose of the study was not entirely to quantify the coverage, the researcher (Myself) believed a quarter of all type of schools are sufficient for this purpose
- As the minimum number of schools to be included in the study was found to be 2 in the case of the government, sufficient information was obtained and analyzed.
- As this is a study to be conducted with a very limited resource addressing only a segment of the city, I assume that further studies could be initiated in the future.

Table 1. Distribution of students by school type, Addis Ababa, June 2009

No	Type of school	No of primary schools	Number of students			Study schools (25%)	Proportional distribution of study subjects	Remark
			M	F	T			
1	Public	18	6047	6939	12986	5	**423**	Official school roster was used determine the sampling units in each of the 10 selected schools
2	Private	11	1577	1499	3076	3	**253**	
3	Government	6	4489	6159	10648	2	**169**	
	Total	**35**	**12113**	**14597**	**26710**	**10**	**845**	

Source: educational statistics annual abstract 2006/07

As indicated in table 1 above, the total number of students in all the primary school in the target area is 26,710.Due to the fact that analyzing the proportion and conditions of WASH facilities in all the three different types of schools is important; the investigator samples from the three schools proportionally.

Realizing the size of the population (N) to be > 10,000, the minimum sample size required is 845 including 5% correction for non-response rate using the formula

$$n= Z^2.p\ (q)/d^2 *D \text{ where,}$$

Z^2.= 1.96, which is Z value corresponds to the 95% confidence interval.

P = proportion of schools (50%) who had proper and well-conditioned WaSH facilities,

Since any study had provided the proportion of the school facilities in terms of quality and accessibility, a proportion of 50% was taken to get the required sample size.

Q = Schools with out proper and quality WaSH facilities are assumed to be 50 %

$d^2 = (0.05)^2 = 0.0016$ = margin of error, tolerated discrepancy between values of the sample and the study population

D=Design effect = 2

Therefore, based on the above assumptions

$n = 1.96^2.5(.5)/0.05^2 \times 2$

$=0.960/0.005 \times 2$

$=768$

10% increase for the non-response rate 768*10/100 = 77

Therefore, the total sample size = 845

4.5 Sample size and Sampling

In order to select a representative sample of the study units, a multi-stage sampling technique expressed in the sampling frame mentioned below was employed. An equal chance and proportional distribution of samples was well considered all down the sampling frame to maximize the fair allocation of the sample size.

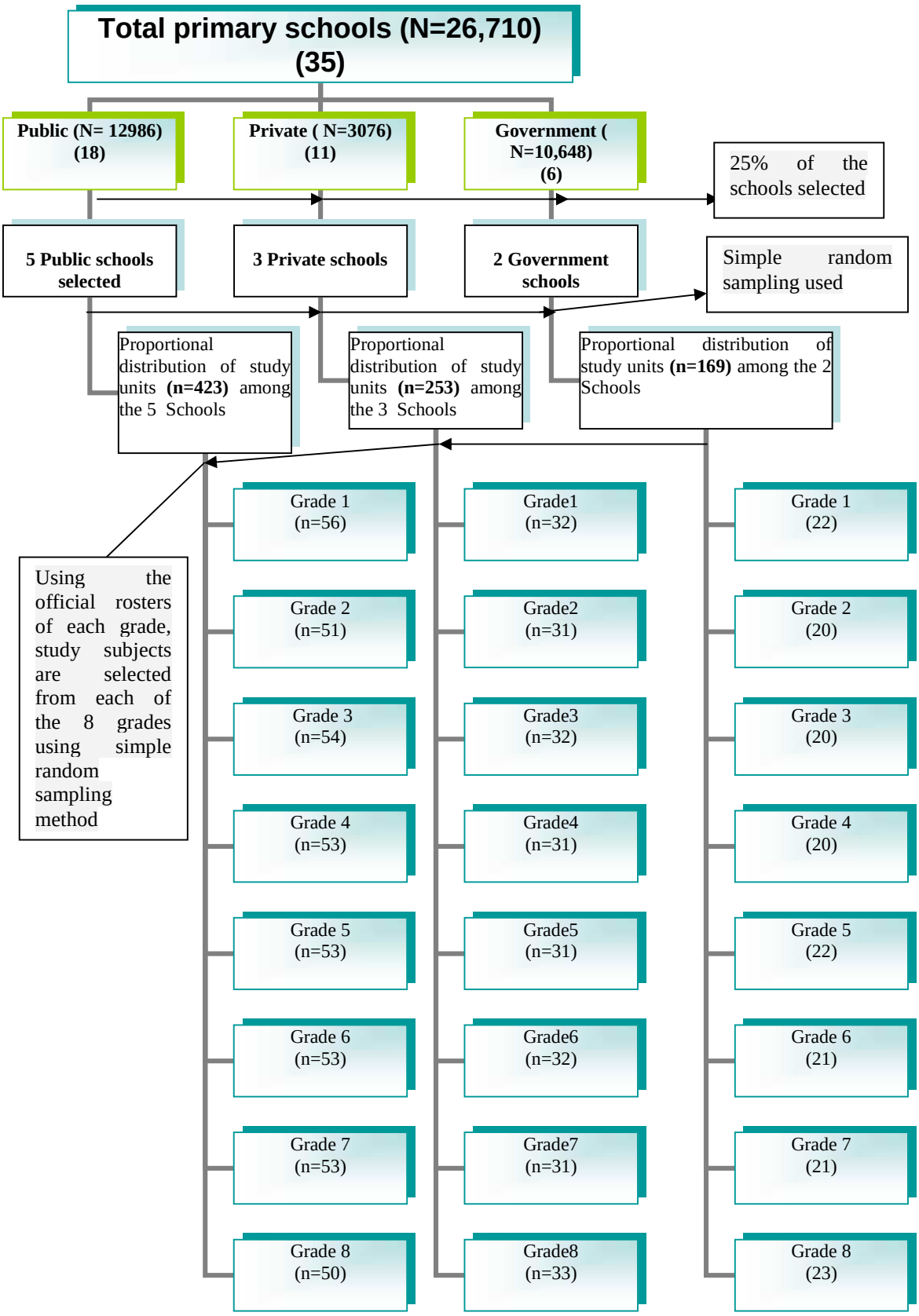
All the three types of the primary schools,35 in number, the public, private and government enrolled 12,986, 3076 and 10,648 students respectively. However, 25% of each school type was considered in the study for 2 major reasons discussed at 5.4 above. The list of all those students in all the 8 grades were obtained from the rosters of all the respective school archives. Using the required sample size,

- A sample proportional to the size of the schools was allocated to all the three schools

- As there are no any special classes in all the schools, no special sampling technique was assumed to select the sampling units.

- In order to simplify the selection of the study subjects, sections from some grades with more than 1 section were further randomly selected. This was done following the discussion with the school directors as there are no any differences among the sections that could bias the finding of the study. It was noted that the sections were created only for a reason that all students could not be accommodated in a single section.

Accordingly, the study subjects from each grade (selected section) were selected from the official class room roasters using a simple random sampling method. A random table was used to identify the first study unit from each of the 8 grades.


Total primary schools (N=26,710)
(35)
Public (N= 12986)
(18)
Private (N=3076)
(11)
Government (N=10,648)
(6)
25% of the schools selected
5 Public schools selected
3 Private schools
2 Government schools
Simple random sampling used
Proportional distribution of study units (n=423) among the 5 Schools
Proportional distribution of study units (n=253) among the 3 Schools
Proportional distribution of study units (n=169) among the 2 Schools
Using the official rosters of each grade, study subjects are selected from each of the 8 grades using simple random sampling method
Grade 1 (n=56)
Grade 2 (n=51)
Grade 3 (n=54)
Grade 4 (n=53)
Grade 5 (n=53)
Grade 6 (n=53)
Grade 7 (n=53)
Grade 8 (n=50)
Grade1 (n=32)
Grade2 (n=31)
Grade3 (n=32)
Grade4 (n=31)
Grade5 (n=31)
Grade6 (n=32)
Grade7 (n=31)
Grade8 (n=33)
Grade 1 (22)
Grade 2 (20)
Grade 3 (20)
Grade 4 (20)
Grade 5 (22)
Grade 6 (21)
Grade 7 (21)
Grade 8 (23)

4.5 Data collection tools and procedures

The data collection had assumed 2 main data collection methods, quantitative and qualitative. The former uses a structured questionnaire that was initially prepared in English and then translated to Amharic so as to facilitate easy communication between the interviewers and the respondents while the latter uses an observation checklist that was managed by the principal investigator.

8 data collectors (12 grade complete) and 1 supervisor (A sanitarian) with a good experience in data collection were selected and trained for one day mainly on the purpose of the study, data collection tools and data collection procedures. A well-organized data collectors training manual was prepared so as to equip them with basic data collection skills.

The list of the names and ages of all the students selected for the study was obtained from the official roster of each of the 8 grades. Therefore, each data collector was provided with the list of selected students from the schools which they were assigned by lottery method. Likewise, the supervisor was responsible in facilitating the data collection process and did the entire day-to-day monitoring of the data collection progress. At the end of each day, all the data collectors, the supervisor and the principal investigator sat together to discuss and check on the daily progress. While the supervisor checks on the whole questionnaire filled on the daily basis, the investigator was also able to re-check 10% of those questionnaire that were checked by the supervisor.

Although the time stipulated for data collection was 10 days, the familiarity coupled with the daily practice of the data collectors had cut it down to 5 days.

Variables

Dependent Variables

The dependent variables in this specific study are Knowledge and hygienic practices of students on water supply and latrine utilization. Hand washing practices and general personal hygiene practices are also part of the main variables.

Independent variables

The independent variables include socio-demographic factors like age group, sex, grade, and school type and school hygiene education.

4.6 Data quality

The data quality was considered right from the design of the questionnaire in which the questionnaire was commented and re-framed based on the comments and feedback from advisors. Aiming at collecting the most reliable and good quality data, the data collectors were purposively selected with experience in data collection, 12 grade complete and interactive characters. Besides, a 1 and ½ day training including pre-testing was conducted.

Besides, the completed questionnaires filled in the daily basis were checked by the supervisor for their completeness that each and every question should be answered and the principal investigator re-checks 10 percent of the daily completed questionnaire that was checked by the supervisor.

In regard to the qualitative study, a non-participant observation method was applied for the reason that the observer (the principal investigator) might easily be identified for he had a well traced age and dressing that was different from the observee.

4.7 Data analysis

Prior to the actual survey, all the variables were pre-coded and a project template was prepared by the investigator. Thus, all the data collected were entered into a computer on a daily basis using Epi info. Half of the data collected in the first day was entered by the principal investigator so as to be familiar with the collected data and of course to acquire actual data entry skill. Later, the responsibility was given to a hired data clerk to do the whole sample data entry.

Once the data was entered in to the computer using Epi info, the data cleaning was done by running frequencies and printouts in which some inconsistencies or mistakes were corrected on a daily basis. During the cleaning process, the data entered in to the computer and the same data available on the hard copies were reconciled in the process.

As there were a number of questions that were meant helpful to assess the WASH knowledge and practices of primary school students, the need for critically selecting some of the most important practice questions and scoring each with 1 and 0 values for correct and wrong answers respectively was the first step to analyze the data

- In regard to the knowledge, questions were selected and a total score of 20 was set. Each of the 6 questions has multiple responses ranging from 2 to 4 responses. Each of the multiple answers were further dichotomized as 1 and 0 for correct and wrong answers

respectively. In order to compute the number of scores a singe case get, the knowledge variable was transformed in to different variable as knowledge quartile so that those cases who respond correctly 0 to 5 are in the first quartile, 6 to 10 correct responses in the second quartile, 11 to 15 responses in the third quartile and 16 to 20 responses are in the fourth quartile.

- Like wise, 5 practice questions were selected and dichotomized in to values of 1 and 0 for correct and wrong answers respectively. Unlike the knowledge level, cases were further labeled under 'Good' or 'Bad' practice depending on the number of scores each of the cases get out of the 5 selected questions. Those who score greater than or equal to 80% were categorized under the 'Good' while those below 80% were categorized under the 'poor' practice category. This was done in order to see the association of knowledge and quality of WASH facilities with the practice of the children.

Once the data were cleaned, appropriate recoding was made on the basis the objectives of the study. Using the analytical icons in the soft ware, frequency distributions, percentages, ratios and descriptive statistics were calculated to describe and characterize the proportion and quality of WASH facilities in the 3 types of schools (Public, Private and Government).Like wise, the analysis had also shown the school WASH interventions in impacting hygienic behaviors of the primary school children and their families.

Analysis to see the frequencies and association of some of the dependent variables against the independent variables was done using descriptive statistics as well as the correlation and regression analysis, specifically binary logistic regression.

In order to categorize cases as per their knowledge and practice status, variables under the WASH knowledge, practice and personal hygiene practices had been recoded with different variable.

- 6 WASH knowledge, 5 practice questions and 8 personal hygiene practice questions were selected and scored out of 20, 5 and 8 points. Cases for knowledge were categorized under 4 knowledge quartiles based on the number of points they get for each question (Those scored 0 to 5, 6 to 10, 11 to 15 and 16-20 were categorized under the first quartile, 2nd quartile, third quartile and fourth quartile respectively).

- Like wise, the WASH practices were categorized under good and poor practice based on the score they get from the selected questions. A cut off point of below and above 80% response was set to further analyze the data. Those who respond yes to 80% and above of the questions were labeled to have good practice while the rest were categorized under the poor practice

- Some of the socio-demographic variables (exposures) were analyzed against the outcomes (knowledge and hygiene practices).A 2 x2 table and crude odds ratio (95% CI) and multivariate analysis was used towards this end.

- Similarly, the association between WASH education in schools with the WASH knowledge and practices of the students in the schools using a 2 x 2 table and odds ratio (95 % CI).

- Binary logistic regression was carried out to analyze the level of predictions by some variables that were converted to categorical variables like Age group, sex, knowledge levels and grade groups on the WASH practices.

- The quality of the WASH facilities in each of the schools was also rated based on the national WASH standard set for schools in Addis Ababa.

4.8 Operational definitions

School type: Is the type to differentiate schools based on ownership and management. There are 3 types of schools, Public, private and government.

Public school: is a school established and managed by the contribution of the public. Students are expected to pay small amount of monthly education fee.

Private school: This is the type of school owned and managed by the individual or group of individuals (investors).Students are expected to pay educational fee much greater than the public school students.

Government school: A school whose management and ownership belongs to the government. Students are accessed with education free of charge.

Note:

All the 3 types of the schools are obliged to follow the rules, regulations and educational curriculum designed and prepared by the ministry of education.

School WASH Initiatives: Is the water supply, latrine and solid waste disposal mechanisms coupled with regular hygiene promotion activities that are accessible for students to use.

WASH practice: Is the water drinking, latrine utilization and personal hygiene practices of the respondents in the school

WASH education: Is the education the respondents get on water supply, sanitation (especially on proper use of latrines in the school)

Proper use of latrine: Is the use of the school latrine without creating a spill over in and around the room which ensures a better off environment for next user

4.9 Ethical consideration

Following the approval of the Ethical committee of Addis continental school of public health and University of Gondar, the data collection process had assumed a series of procedures in which a letter of support was written by ACIPH to the Lideta sub-city education office where the actual study is supposed to take place. After discussing the purpose and methods of data collection to the head of the education office, a letter of support was written by the education office to the study schools. The final discussion had, therefore, been done with each of the school directors and home room teachers.

After a clearance from the university and permission obtained from appropriate offices, the respondents were further contacted for verbal consent. The consent clearly indicated that each student has the full right to accept or reject whether to be included in the study or not. In the mean time, the interviewers were made to explain importance of the study as well as the confidentiality of the data. **.**

5. Results

Socio-demographic characteristics of the study subjects

The ages of the respondents ranges between 6 and 20 years. The mean and standard deviation of their age was found to be 11.5 and 2.72 years. Female and male students were 460(54.4%) and 385 (45.6%) respectively. Almost equal number of study subjects were selected from grade 1 to 4 (422) and 423 study subjects from grades 5 to 8.The largest share, 691 (82.4%) of the study subjects belongs to the Christian religion while the rest 145(17.3%) and 3(0.4%) belongs to Muslim and others respectively (Table 2).

Table 2: Socio demographic characteristics of primary school students in Lideta sub city, Addis Ababa, June 2009.

Characteristics	Number	Percent
Sex		
▪ Male	385	45.6
▪ Female	460	54.4
Age		
▪ 6-10	315	37.3
▪ 11-15	480	56.8
▪ 16-20	50	5.9
Grade		
▪ 1-4	422	49.9
▪ 5-8	423	50.1
Religion		
▪ Christian	691	82.4
▪ Muslim	145	17.3
▪ Others	3	0.4
Family education		
▪ Father read and write	765	90.5
▪ Mother read and write	693	82

Six Hundred Seventy two (79.7%) of the study subjects believed that water could be a source of diseases transmission. While this group was asked which diseases could be transmitted through water, only 55 % of them responded that diarrhea, skin and eye diseases can be transmitted through water (Table 3).

Among the respondents (n=842), 479 (40%) students, 406(34%) and 224(19%) had said that latrine is used to prevent disease, prevent environmental pollution and for privacy respectively. only very few, 83 (7 %) responded to all of the above benefits altogether while the majority, 570(67.5%) of the students selected a single response (Table 3, figure 1)

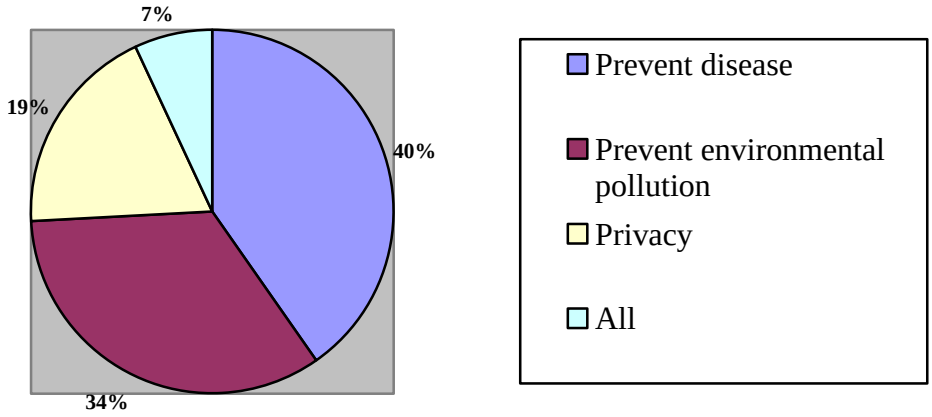


Figure 1: Responses of the primary school students on the benefits of a school latrine, Lideta sub-city, Addis Ababa, June 2009

Seven Hundred Forty (87.8%) of the students responded that a school latrine should be always clean and 339(40.2%) said that a latrine in the school should be free of bad odor. There were also students (246 and 229 in number) and who said that a latrine should prevent the breeding of flies and be free from posing an accident respectively. It was only 159(18.8%) of the respondents who said all of the above criteria should be there while the majority 484 (57.3%) responded only to one of the criterias (Table 3).

The majority 562(70.6%) of the students said that a hand washing facility is used to prevent diarrhea and 482(65.3%) said it is just a good practice and 166 (22.5%) said hand washing is important to prevent eye disease. Among the 3 responses above, the majority of the respondents

521 (70.6%) mentioned only one response while only 62 (7.3%) mentioned all of the 3 responses altogether (Table 3).

Table 3: Knowledge of students on WASH in primary schools in Lideta sub-city, Addis Ababa, June 2009

Characteristics	Number	Percent
Does water transmit disease		
▪ Yes	672	79.7
▪ No	159	18.9
Importance of a latrine		
▪ Prevent disease	479	56.9
▪ Prevent pollution	184	21.9
▪ Prevent bad smell	406	48.2
▪ For privacy	224	26.6
Criteria for a school latrine		
▪ Always clean	740	87.8
▪ Unfavorable for fly breeding	229	27.2
▪ Doesn't expose for accident	246	29.2
▪ Free of odor	339	40.2
Does a school latrine need to have a hand-washing facility?		
▪ **Yes**	785	93.2
▪ **No**	47	5.6
▪ **I don't know**	10	1.2
Importance of hand-washing facility		
▪ Prevent diarrhea	521	70.6
▪ Good practice	256	34.7
▪ Prevent eye disease	166	22.5
▪ All	62	7.3
Is it important to separate latrine for boys and girls?		
▪ Yes	804	95.8
▪ No	35	4.2

Equal number of students, 427(56.6%) mentioned that uncleaned latrine and one that has bad odor are the two main reasons mentioned by the largest number of students for not using the latrine. Like wise, very few, 87 (10.3%) but equal number of respondents had also mentioned that latrines are not used by the students for the reason that it poses accident and has no privacy. (Table 4).

Among the respondents, the majority 504(60.6%) said that their school latrines are not good for use and while 293(35.2%) said that their latrines are clean and good for use. Further analyzing which respondents had said their latrines are good, the result indicated that 129 (44%) of the respondents were from private schools. The largest share 264(56.3%) of the public students said that their latrines are not good for use while similar response was given by 98 (19.4%) and 122(24.2%) respondents from private and government schools respectively (Table 4).

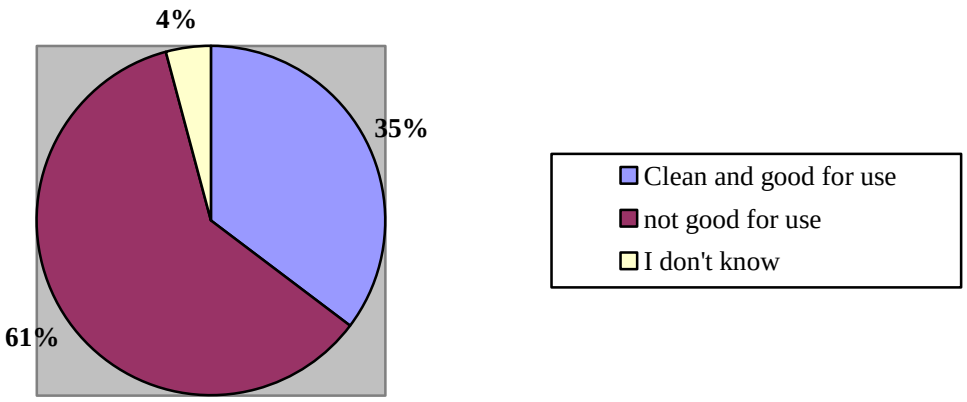


Fig 2: Response of primary school students on the conditions of their school latrines, Lideta sub-city, Addis Ababa, June 2009

Six Hundred Forty Nine (76.8%) of the respondents mentioned that either burning or disposal into a pit is a good way of solid waste disposal while only 144 (17%) of them mentioned both as a means of solid waste disposal.

Among 843 student respondents, 672 (79.7%) had mentioned that they had learnt or had information about WASH. The rest 159(18.9%) and 12(1.4%) had said the they don't learn about WASH and do not remember at all respectively.Furrther analyzing the data against the exposure (School type), the result indicated that more than half of those who learned WASH accounts for

the public school which is 357(53.1%) while 229(34.1%) and 86(12.8%) are from private and government schools (Table 3).

The majority, 624(92.9%) of the students had said that they had heard about WASH from their schools while only 69(10.3%) had said that they had heard it from their family.

Table 4: WASH education, students' evaluation on their school latrine and reasons why they don't properly use the latrines in Lideta sub city, Addis Ababa, June 2009

Characteristics	Number	Percent
Education on WASH		
▪ Yes	672	63
▪ No	159	32.8
▪ I don't remember	36	4.2
Student's evaluation on own school latrines		
▪ Clean and good for use	293	35.2
▪ Not good for use	504	60.6
▪ I don't know	35	4.2
Reasons why students don't like the school latrines*		
▪ Bad odor	427	56.6
▪ Not clean	427	56.6
▪ No privacy	87	11.5
▪ Risk of accident	87	11.5

Note: * = Percentages do not add up to 100% due to multiple responses

Of 637 respondents who said 'yes' to use the water in the school, 389(61.5%) of the students drink water using their own hand and 240(37.9%) of them use own material out of which 133 (71.5%) are from the private schools.

With regard to the reasons why students don't like their school latrines, equal number of students 427 (56.6%) mentioned that uncleanliness and the bad smell of their school latrines why they dislike their latrines. Like wise, very few 87(11.5%) of the respondents lack of privacy and risk of accident are also the reasons why students don't like their school latrones. While asked hand

washing practice after latrine use, 659 (78%) of them had said that they wash their hands every time after they use the latrines.186 (22%) of them do not wash their hands after latrine use. Although this was based on the questions posed to themselves, the same question was asked to all respondents to tell about the practices of their fellows in the school.Therefore,the result indicated that 515(61%) of the students responded that the students do not use the latrines properly although the majority said positively about themselves.

Table – 5 -The WASH practices of primary school children in relation to WASH education in schools in Lideta sub-city, Addis Ababa, June 2009

School WASH practices	WASH education* in the school		OR(95% C.I)
	Yes	No	
Water drinking practice			
Good	367	82	1.13(0.79,1.62)
Poor	305	77	1
Proper use of latrine			
Yes	595	137	1.24(0.72,2.12)
No	77	22	1
Hand washing after latrine use			
Yes	526	120	1.17(0.76,1.79)
No	146	39	1
Hand washing with soap			
Yes	201	26	0.45(1.32,3.57)
No	321	90	1
Solid waste disposal			
Yes	474	143	0.26(0.13,0.53)
No	127	10	1
WASH practice in the school			
Good	460	114	0.86(0.57,1.28)
Poor	212	45	1

*** = WASH education is the water supply, sanitation and hygiene education in which the students were taught in the school**

As indicated in Table-5 above, WASH education in the school and WASH practice are not significantly associated with an odds ratio of 0.86 at 95% CI (0.57, 1.28).

Among 845 respondents, the majority 659 (78%) had responded that they wash their hands after latrine use. however, among this group who wash their hands, the majority 420(64.7%) didn't wash their hands with soap. only 220(35.3%) were found to wash their hands with soap after latrine use. Out of those who was their hands with soap, the largest share 116(49.4%) goes to those students in private schools.80 (29%) and 33(23.9%) of respondents who don't wash their hands with soap are from public and government schools respectively.

The majority of the respondents 453 (53.9%) dispose solid waste at solid waste pits which is found at the premises of their respective schools. However there are still groups of students 207(24.6%) and 13(19.8%) in number who dispose solid waste every where in the school compound and into the latrine respectively.

Table-6- Selected socio-demographic characteristics and their relation with the WASH practices of primary school children in Lideta sub-city, Addis Ababa, 2009.

Socio-demographic characteristics	WASH practice* in the school		OR(95% C.I)
	Good	Poor	
Age group**			
6-10	257	58	1
11-15	299	181	0.37(0.26,0.52)
16-20	29	21	0.31(0.17,0.58)
Sex**			
Male	237	148	1
Female	348	112	1.940(1.44,2.60)
Religion			
Christian	486	205	1
Muslim	93	52	0.75(0.52,1.09)
Family education			
Father read and write			
Yes	513	41	1.12(0.58,2.15)
No	39	207	1
Mother read and write**			
Yes	481	88	2.56(1.13,5.79)
No	60	92	1
School type**			
Public	237	186	0.20 (0.13,0.31)
Private	218	35	1
Government	130	39	0.54(0.31,0.91)

*= **WASH practice**: Is the combination of water drinking habits (by hand, mouth or container),proper use of latrine, hand washing with soap before eating, after latrine use, solid waste disposal and personal hygiene practices of the respondents in the school .Respondents were categorized under the **'good'** and **'poor'** WASH practices based on the number of responses they get out of the 8 selected practice questions.

** = Significant associations with WASH practices in the school.

Table -7- knowledge of primary school children on WASH and their corresponding hygienic practices (n=659)

		WASH practice in the school		
		Good (%)	**Poor (%)**	**Total (%)**
Knowledge of students	**1st quartile**	105 (64.4)	58 (35.6)	163 (100)
	2nd quartile	269 (67.9)	127 (32.1)	396 (100)
	3rd quartile	59 (68.6)	27 (31.4)	86 (100)
	4th quartile	11 (78.6)	3 (21.4)	14 (100)
	Total	444 (67.4)	215 (32.6)	659 (100

Note:

1st quartile = 0 to 5 points out of 20 **2nd quartile = 6 to 10 points out of 20**

3rd quartile = 11 to 15 points out of 20 **4th quartile = 16 to 20 points out of 20**

Table - 8- Predictors of socio-demographic characteristics on hand washing practices of primary school students, Lideta sub-city, June 2009

Variables	Hand washing practice		Bivariate analysis	Multivariate analysis
	Yes	No	OR(95% CI)	OR(95% CI)
Age group**				
▪ 6-10	269(85.4)	46(14.6)	2.06(1.02,4.16)	1.56(0.69,3.5)
▪ 11-15	353(73.5)	127(26.5)	0.978(0.50,1.89)	0.74(0.37,1.48)
▪ 16-20	37(74)	13(26)	1	1
Sex**				
▪ Male	283(73.5)	102(26.5)	0.62(0.45,0.86)	0.59(0.42,0.85)
▪ Female	376(81.7)	84(18.3)	1	1
Grade				
▪ 1-4	342(81)	80(19)	1.429(1.03,1.98)	0.95(0.59,1.49)
▪ 5-8	317(74.9)	106(25.1)	1	1
School type**				
▪ Public	284(67.1)	139(32.9)	0.42(0.27,0.66)	0.42(0.27,0.67)
▪ Private	235(92.9)	18(7.1)	2.7(1.45,5.05)	2.67(1.42,5.03)
▪ Government	140(82.8)	29(17.2)	1	1

**** = Significant association**

Table -9- Effect of students' evaluation on their school latrines against their use. (n=824)

		Latrine use			OR(95%CI)
		Yes (%)	No (%)	Total (%)	
Students evaluation	**Clean and good**	278(38)	14(15.2)	292(35.4)	1
	Not good	421(57.5)	76(82.6)	497(60.3)	0.27(0.16,0.48)
	I don't know	33(4.5)	2(2.2)	35(4.2)	0.89(0.19,4.08)
	Total	732(100)	92(100)	824(100)	

Note

1=Referent

Results of observation on the proportion and qualities of school WASH in the 3 types of school

Water supply availability, access and structural design

Among the 10 schools that were observed ,9 (90%) of the schools had water supply in the school while one of the schools (the Public school) do not have the water supply for the reason that all the water taps were found to be broken at the time of the observation.

It was only 3 (33.3%) of the schools who were found to access the students with drinking water whenever they need during their stay in the schools. The majoritry, 6(66.6%) of them do not allow the students whenever they need the water except the break and lunch hours. The majority 5 (55.6%) of the schools do not have child-friendly and appropriately designed water troughs. In effect, the students were observed hanging on the water trough so as to drink the water during those very limited hours of the day.

Among the schools observed, only 1 of them had a reservoir that could be accessed during the time when the water is interrupted from the source.

Latrine availability, functionality, privacy and cleanliness

All of the 10 schools had latrines that are functional. Although the latrines are functional The number of squats they all have in respect to the standard (1 seat per 30 student) set by environmental health and hygiene department of the ministry of health is far beyond reach (Table 9).

Unlike the 3 private schools that have latrines clean for next user, all the 7 latrines in the public and government schools have very unclean, sniffy bad odor with feces and urine all over the floors. It is also observed that only 30 % of the latrines (The private ones) are well maintained while the rest of the latrines in the public and government latrines have cracked walls, some are without doors and the like.

Hygiene promotion

None of the schools had regular and organized hygiene promotion sessions to address the issue of WASH in the schools. Although there is no specific session in this regard, students in grade 1-4 had the access to learn about personal and environmental hygiene during their environmental science classes. However, none of the schools had a WASH curriculum in their schools. All of the schools have mini-medias whose main purpose is for entertainment than used for WASH promotion activities.

Photo 1: Squatting slab of one of the government primary school, Lideta Sub-city, 2009

Photo 2: Squatting slab of one of the private primary school, Lideta sub-city, 2009

Photo 3: Water point in Enat Ethiopia primary school,Lideta sub-city, June 2009

Photo 4: Primary school students surrounding the water point, Karamara Primary school, Lideta sub-city, June 2009**.**

Table -10- Proportion of school WASH facilities by school type, Lideta sub-city, June 2009

		School WASH facility as per the standard set by MOH											
		Water supply						latrine					
		Number of students	Number of Water tap			Standard set by MOH 1 Tap/50students	School condition	Number of students	Number of Latrines			Status when compared to the Standard set by MOH (1 seat/30students)	School condition
			In the system	Functional	%				In the system	Functional	%		
School type	Public	4778	105	36	34	37.5%	B	4778	86	86	100	54%	B
	Private	661	16	15	94	113%	A	661	16	16	100	72%	B
	Government	5489	46	6	13	5%	C (Much below standard)	5489	54	34	63	18%	C
	Total	10928	167	57	34	26%		10928	156	136	87	37%	

Note:

- **A=Above standard**
- **B=Below standard**
- **C=Much below standard**
- **E=Equal to the standard**
- ***All calculations were based on the currently functional facilities counted during observation***

6. Discussion

The study was able to indicate the Proportion and quality of the WASH facilities in all the three school as one of the factors affecting the proper use of facilities and maintenance of healthy behaviors i.e. the type of schools where the students are enrolled is one of the predictors of the students' WASH practice. Students enrolled in private schools have better off practice than the students in public and government schools. This could be verified by the qualitative finding that shows the private schools to have a well-maintained, clean and relatively adequate facilities than the rest of the two schools.

Despite the variations in the management as well as ownership of schools, the ministry of health through its hygiene and environmental health department had produced a guideline in 1997 for the promotion of environmental health in schools.However,this study had showed that major deviations from the guideline was found on public and government schools.

The 3 private schools had better water supply and sanitation facilities in terms of cleanliness and adequacy. Although all of the 3 types of schools have got a water supply system, one of the public schools has non-functional water supply at all, fully deviated from the standard set by the MOH (28). These schools were only able to deliver water supply in which 37.5% and 51 % of their provision is within the standard. A significant deviation from the standard is observed in the government schools. Unlike these 2 types of schools, the private schools, though they have very few students, have water taps to access less number of students set by the standard.

While the government schools that have latrines far beyond the set standard (18%), the private schools are still better off than the public and government schools in this regard. This could be due to the fact that the number of students enrolled in private schools are very few and parents pay a lot of fees so as to give comfort to their children. Despite the availability of the latrines in all the schools, none of them had hand washing facilities adjacent to the latrines except the one built for drinking a distance away from the latrines. This situation could be linked with low hand washing practices among the majority of the students in all the schools.

As the mere existence of the hard ware doesn't qualify the school for good sanitation intervention, further assessment of the facilities in terms of cleanliness, privacy and maintenance is mandatory so as to tell the status of the school WASH initiatives.

Five (50%) of the water troughs are structurally accessible to all age group while all the latrines except the private ones do need maintenance of various forms. It was common to find a latrine without door, feces and urine all over the room in the public and mainly in the government school latrines.

The conditions and quality of the latrines and the water schemes are not child-friendly as well as not good for use i.e. 70 % of the latrines are not well maintained with some having no doors, poor cleanliness, and the majority with bad odor and the like. This result showed us that the students are using the latrines even though they claim the latrines not to be clean. The proportion of users may have increased as they don't have an option to relieve themselves during their long hour stay in the schools. The study also showed us that the expectation of the students on the quality and maintenance of their school latrine

and water points couldn't be met although some evidence suggests that the two key preventive behaviors in a school are the proper use of school toilets, and hand-washing with soap after the use of toilets and before eating (25).

WASH education in the schools is not significantly associated with hand washing with soap after latrine use. In other words, knowledge couldn't be the predictor of their practices.93 % of the study subjects believed in the availability of hand washing facility adjacent to a latrine but there were only 35% of the respondents who responded to use soap. This result was almost similar with the study made on 6 countries by UNICEF and IRC which is 33.3 %(27)

WASH practice is significantly associated with the school types in which students in private schools are more better off than the public and government schools (Table 3).This finding is almost similar with the survey done in schools in Nigeria where the hygienic conditions in government schools was so poor and the situation in the private schools was satisfactory (30). This could show us that WASH education coupled with better facilities (Interms of adequacy and quality) may ensure better practice. School WASH education programs work to ensure that hygienic behaviors are linked to clean and operational facilities (27).

7. Strength and Limitation of the study

7.1 Strengths

- Use of both quantitative and qualitative studies
- Use of proper sampling procedure

7.2 Limitations

- Social desirability bias
- A single sub-city included in the study for time and resource limitations

8. Conclusion

All types of the schools, the public, private and government schools had latrines and water supply systems constructed in their compound where all the students can easily access.However,major deviations in the number, quality and conditions of these facilities were observed among the schools. According to the environmental health standard set for the schools, the private schools were found to be above standard and the public and government schools were below standard while the latter is far beyond standard. Like wise, the study had also showed that all the three types of schools have latrines beyond the standard. However the private schools are by far better than the government and the public schools. The government schools are by far below the standard as compared to the two schools.

Failure to comply with the set standard had resulted in the denial of the right of the children to freely access the WASH facilities. In effect, a very limited number of WASH facilities in the schools coupled with loose follow up in the cleanliness and maintenance of the facilities had affected the appropriate use of facilities. Schools with less number, poor quality and conditions of WASH facilities had large number of students with improper practices while the private schools with better off conditions have students with better WASH practices.

The knowledge of students on water supply, sanitation and hygiene is better than their practices.Similarily, WASH education in the schools couldn't be manifested in better practices.

If the trend in the adequacy, quality and condition of the current WASH facilities in government and public schools persist in the coming years, the potential risk of acquiring different water and sanitation related diseases in the schools would be inevitable. Even today, further studies could be done and possibly come up with clinical findings that may emanate as a result of poor WASH practices.

Above all, children shall gain better WASH practices in the schools which they could transfer to their homes and their community. Otherwise, schools could be a source of mal-practices that are dangerous to the health of the students and the community at large.

With regard to the hygiene promotion activities, almost all schools were found to focus only on awareness creation for a very short period of time while students line up for the national anthem in the first day in the morning.Besides,the existing clubs in all the schools do only focus on entertainment activities rather than used for WASH promotion activities.

Recommendation

Realizing the fact that the findings of the study clearly indicated as there should be a need for action for the betterment of the teaching-learning process, the following recommendations were drawn and shall deserve attention by all actors who have a stake in the education process.

- As the water supply and sanitation facilities in the government and public schools are below the standard in terms of adequacy and maintenance, compliance at least with the existing guideline set by the MOH is mandatory.
- The issue of adequacy, cleanliness and maintenance of latrines especially in the public and government schools was found to be so poor. So, it would be wise to consider the standard set by the MOH when planning to construct the latrines. Therefore, additional latrines shall be constructed for proper utilization.
- Like wise, the cleanliness of the latrines was an issue left to the cleaners in the school which they clean it once in every first day in the morning. However, the latrines are spoiled in all day affecting the proper use. So, a mechanism to involve students in the management and cleaning of their own latrines is recommended in terms of introducing ownership and responsibility into the students even in facilities out of school (peer-to-peer follow-up).
- As many of the latrines in the government and public schools seeks maintenance, the school management shall mobilize resource either from the students,NGOs around the school, or the education department in the sub-city so as to properly maintain the existing facilities for optimum utilization.

- The school clubs shall be intensively engaged in WASH promotion activities. Therefore, the club members shall be well trained in hygiene promotion skills.
- In order to reconcile knowledge and practice, life skill programs in the schools shall be designed to promote healthy hygienic practices.
- Simple and non-expensive hand washing facilities shall be made available adjacent to the latrines. Collaboration with the national WASH movement would mean a lot towards this end.
- As the knowledge of the majority of the students on WASH is good, a mere persistence on teaching the students on WASH would be a futile exercise.Therefore,promotion of hygienic practices using demonstrations and IEC materials is worth considering.
- The collaboration of the ministry of health and education is so important in terms of promoting good WASH practices among the students. Regular and joint follow up for proper utilization of facilities is important.

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Annex-1

Consent Form

Dear respondent,

My name is_____ and I am here on behalf of Mr _____, a post graduate student in University of Gondar and Addis continental school of public health. He has permission from the school to conduct an interview that would help him assess the School WaSH initiatives in impacting hygienic behaviors of students. Your school had been selected for the study. You are selected randomly using the students' roster. The school director had given me the permission to interview you so that we will spend not more than 30 minutes. Any information you give me is confidential and It is not going to be shared to no one else except the research team without mentioning any thing about you. All your responses are very useful for the study and any time you don't want to respond, your right not to is totally maintained

I thank you in advance for taking a time with me.

Do you agree to interview? Yes___ No ____

Name of Interviewer: _____

Date of interview: _____

Name of school: _____

Grade: _____

Code: _____

Time started: _____

Time ended: _____

አዲስ ኮንትኔን ል ኢንስቲቲዩት ኦፍ ፐብሲክ ሄልዝ
ና
ጎንደር ዩኒቨርሲቲ

የቃለ መጠይቅ ፍቃደኝነት ቅፅ

ዉድ ተጠያቂ

ስሜ ---------- ይባላል፡፡ በጎንደር ዩኒቨርሲቲ ና አዲስ ኮንትኔን ል ኢንስቲቲዩት ኦፍ ፐብሲክ ሄልዝ የድህረ ምረቃ ተማሪ የሆኑትን አቶ ዮናስ ባዬን ወክየ ነዉ ዚህ ያለሁት፡፡ የትምህርት ቤት የዉሃና ንፅህናን በተመለከተ ጥናት ለማድረግ ንዲችሉ ከትምህርት ቤ ቸዉና ከሚመለከ ቸዉ የመንግስት መስሪያ ቤቶች ፍቃድ ያገኙ ሲሆን የአንተም/ችም ትምህርት ቤት ለጥናቱ የተመረጠ በመሆኑ አንተም/ቺም የትምህርት ቤቱ ተማሪ ስለሆንክ/ሽ በቃለ መጠይቁ ተሳ ፊ ንድትሆን/ኚ ተመርጠሃል/ሻል፡፡

ጥያቄዉ ከግማሽ ሰአት በላይ የሚፈጅ አይደለም፡፡ማንኛዉም የምትሰጠኝ/ኚ መረጃ ከጥናቱ ጋር ከተያያዙ ሰዎች በቀር ለማንም ሰዉ የሚገለጽ አይደለም፡፡የምትሰጠኝ/ኚ መረጃ ለጥናቱ ጠቃሚ ሲሆን በማንኛዉም ሰአት ጥያቄዉን መመለስ ከልፈለክ/ሽ ሙሉ በሙሉ መብትህ/ሽ የተጠበቀ ነዉ፡፡

በጣም አመሰግናለሁ፡፡

ቃለ መጠይቁን ለማድረግ ፍቃደኛ ነህ/ሽ? አዎ ---------- አይደለሁም----------

የጠያቂዉ ስም----------

ቀን ----------

የትምህርት ቤቱ ስም ----------

ከፍል ----------

መለያ ----------

የተጀመረበት ሰአት ----------

ያለቀበት ሰአት ----------

መመሪያ፡ ለ ያንዳንዱ ጥያቄ ለሚሰጠዉ መልስ የተሰጡትን ምርጫዎች ያክብቡት፤፤

ከአንድ በላይ መልስ ያላቸዉንም ጥያቄዎች በማክበብ ይግለፁ፤፤

ተማሪዎችን ያማከለ

መጠይቅ

1.1 ጠቅላላ መሰረ ቂ መረጃ

ተ.ቁ	ጥያቄ	መልስ	ምልክት	ወደሚቀጥለው ይመልከቱ
101	ድሚ(በአመት)			
102	ፃ	1. ወንድ 2. ሴት		
103	የትምህርት ቤቱ አይነት	1. የህዝብ 2. የግል 3. የመንግስት		
104	ትምህርት ደረጃ			
105	ሀይማኖት	1. ክርስቲያን 2. ሙስሊም 88.ሌላ ካለ ይገለፅ---------- ----------		
106	አባትህ/ሽ መፃፍና ማንበብ ይችላሉ	1. አዎ 2. አይችሉም 3. አላዉቅም		
107	አናትህ/ሽ መፃፍና ማንበብ ይችላሉ	1. አዎ 2. አይችሉም 3. አላዉቅም		
108	የቤተሰብህ/ሽ ወርሃዊ ገቢ በግምት ምን ያህል ነው?	1. ከ500 ብር በ ች 2. ከ500 - 1000ብር 3. ከ1000 - 2000ብር 4. ከ1500 ብር በላይ 5. አላዉቅም		

1.2 የውሃ አቅርቦት ሳኒቴሽን ና ንፅህናን

1.2.1 የግንዛቤ ደረጃን በተመከለተ

ተ.ቁ	ጥያቄ	መልስ	ምልክት	ወደሚቀጥለው ይመልከቱ
201	ው በሽ ያስተላልፋል ብለህ/ሺ ምን ያስሽ?	1. አዎ 2. አላምንም 3. አላውቅም		መልሱ አላምንም /አላውቅም ከሆነ ወደ 207ኛው ጥያቄ ይ ስፍ
202	የ201ኛው ጥያቄ አዎን ከሆነ የትኛቹ በሽ ዎች በው አማካኝነት ይተላለፋሉ?	1. የትቅማጥ በሽ 2. የቆዳ በሽ 3. የአይን በሽ 88. ሌላ ካለ ይገለፀ ----------		
203	በው ጥረት ምክንያትስ የሚከሰቱ በሽ ዎች የትኛቹ ናቸው?	1. የትቅማጥ በሽ 2. የቆዳ በሽ 3. የአይን በሽ 88 ሌላ ካለ ይገለፀ _____ _____		
204	የትምህርት ቤ ችሁን ው ለብክለት የሚያጋልጡ ነገሮች ምን ይመስላች ል?	1. የተሰበሩ ው ቧንቧዎች 2. ንፁህ ያልሆነ ጅ 3. ንፁህ ያልሆነ ዕቃ 4. ያልተከደነ የውሃ ማጣሪቀሚያ 88. ሌላ ካለ ይገለፅ ----------		
205	የትምህርት ቤ ችሁ ዉሃ ለብክለት ተጋልጦአልን?	1. አዎን 2. አልተጋለጠም 3. አላዉቅም		
206	የትምህርት ቤትን ው በንፅህና ለመያዝ ከሚከተሉት ውስጥ የትኛው መፍትሄ ነው ትላለህ /ትያለሽ?	1. ፈሳሽ ያላቸውን የቧንቧ መስመሮችን መጠገን 2. ንፁህ የው ማጠራቀሚያዎችን ማዘጋጀት		

		3. ንፁህ የውሃ መጠጫ ዕቃዎችን መጠቀም 88. ሌላ ካለ ይገለፅ		
207	ስለውሃ፣ሳኒቴሽን ና የግል ንፅህና አጠባበቅ ትምህርት ተምረህ ዉቃለህ/ሺ	1. አዎን 2. አልተማርኩም 3. አላለ ዉለም		መልሱ አልተማርኩም ከሆነ ወደ 210ኛው ጥያቄ ይ ለፍ
208	የጥያቄ 207 መልሱ አዎን ከሆነ በማን?	1. በሬዲዮ 1. በቴሌቪዥን 2. ከጋዜጣ 3. ከትምህር ቤት 4. ከጤና ድርጅት 5. ከቤተሰቦቼ 88. ሌላ ካለ ይገለፅ----------		
209	የ208ኛው ጥያቄ መልሱ ምርጫ ቁጥር‘3’ ከሆነ የትምህርቱ አሰጣጥ ንዴት ነው?	1. መደበኛ የትምህርት ክፍል ጊዜ አለው 2. ትምህርቱ በአጋጣሚ የሚሰጥ ነው 3. ንዴት ንደሚሰጥ ብዙም አላውቅም 88. ሌላ ካለ ይገለፅ----------		
210	መፀዳጃ ቤትን መጠቀም ለምን ይጠቅማል?	1. በሽ ን ለመከላከል 2. የአካባቢ ብክለት ለመከላከል 3. ሽ ን ለመከላከል 4. በመፀዳዳት ጊዜ በሰው ላለመ ዋት 88. ሌላ ካለ ይገለፅ----------		
211	አንድ የትምህርት ቤት መፀዳጃ ቤት ምን ምን መስፈርቶችን ማሟላት ይገባዋል?	1. ሁልጊዜ ንፁህ 2. ለዝንብ መራቢያ የማይመች 3. ለአደጋ የማያጋልጥ 4. የማይሸት 88. ሌላ ካለ ይገለፅ----------		
212	መፀዳጃ ቤት የ ጅ መ ጠቢያ አገልግሎት ሊኖረው ይገባል ትላለህ/ትያለሽ?	1. አዎን 2. አላመንም 3. አላዉቅም		መልሱ አላመንም ከሆነ ወደ 214ኛው ጥያቄ ይ ለፍ
213	የ212ኛው ጥያቄ አዎን ከሆነ የ ጅ መ ጠቢያው መኖር ለምን ይጠቅማል?	1. የተቅማጥ በሽ ን ለመከላከል 2. ጥሩ ልምድ ስለሆነ 3. የአይን በሽ ን ለመከላከል		

		88. ሌላ ካለ ይግለፅ---------- ----------		
214	መፀዳጃ ቤት ለመንደፍና ለሴቶች መለየት ይኖርበ ል ብለህ/ሺ ምናለህ/ሺ?	1. አዎን 2. አላምንም		
215	ከት/ቤት የሚወጡ የደረቅ ቆሻሻዎች የትኞቹ ናቸው	1. ወርቀት 2. ትርፍራፊ ምግብ 3. ሳር 4. የጠመኔ ስብርባሪ 88. ሌላ ካለ ይገለጽ----------		
216	የቆሻሻ አወጋገድ ዘዴዎች የትኖቹ ናቸው?	1. በጉድጓድ መጣል 2. ማቃጠል 88. ሌላ ካለ ግለፅ---------- ----------		
217	የቆሻሻ መጣያ ዕቃዎች በየክፍሉ ውስጥ መኖር ይገባዋል ትላለህ/ያለሽ?	1. አዎን 2. አያስፈልግም 3. አላውቅም		
218	ለቤተሰቦችህ ስለ ዉሃ የግልና የአካባቢ ንፅህና አጠባበቅ ትምህርት ተናግረህ ውቃለህ/ሺ?	1. አዎን 2. ተናግሬ አላውቅም		መልሱ ተናግሬ አላውቅም ከሆነ ወደ 219ኛ ው ጥያቄ ይ ለፍ
219	የ218ኛው ጥያቄ ተናግሬ አላውቅም ከሆነ ለምን?	1. ስለማይሰሙኝ 2. ስለሚቆጡኝ 88. ሌላ ካለ ግለፅ---------- ----------		

1.2.2 የአስተሳሰብ ደረጃን በተመከለከተ

301	በአንተ/ቺ አስተያየት የትምህርት ቤ ችሁ የውሃ አቅርቦት ለሁሉም ተማሪ በቂ ነው ብለህ/ሺ ምናለህ/ሺ	1. አዎን 2. አይደለም 3. አላዉቅም		
302	በትምህር ቤ ች ውስጥ የለነ ንፅህና ትምህርት በመደበኛነት ሲሰጥ ይገባዋል ብለህ/ሺ ምናለህ/ሺ	1. አዎን 2. አያስፈልግም		
303	ንደ አንተ /አንቺ ያለ ተማሪ በቤተሰብህ/ህ ላይ የለነ ንፅህና ባህሪ ላይ ተፅኖ ማድረግ ንችላለን ብለህ/ሺ ምናለህ/ሽ	1. አዎን 2. አላምንም 3. አላዉቅም		
304	የ303ኛዉ ጥያቄ አዎን ከሆነ ንዴት ነዉ	1. የተማርኩትን በማስተማር		

	ተፅ ኖ ማድረግ የምትችስዉ/የምትችይዉ?	2. በተግባር በማሳየት 88. ሌሳ ካስ ይገስፅ----------		
305	የትምህርት ቤት መጸዳጃ ቤቶችን ተማሪዎች ሳስመጠቀም ምክንያቱ ምን ይመስልሳል/ሻል?	1. መጥፎ ሽ ስሳስዉ 2 .ንፁህ ሳይሆን ሲቀር 3. ሲፀዳድ በሰዉ የመ የት አጋጣሚ ካስ 4. ስአደጋ የሚያጋልጥ ከሆነ 88..ሌሳ ካስ ይገስፅ---------- ----------		
306	የትምህርት ቤ ችዉ መፀዳጃ ቤት በአንተ/ቺ አስተያየት ምን ሁኔ ሳይ ይገኛል?	1. ንፁህና ስመጠቀም አመቺ 2. የማይመች 3. አሳዉቅም		

የልምድ/የተግባር ደረጃን መተመስከተ

401	በትምህርት ቤት የሚገኝዉን ዉሃ ትጠቀማስህ/ሺ?	1. አዎን 2. አልጠቀምም		መልሱ አልጠቀምም ከሆነ ወደ 403ኛ ዉ ጥያቄ ይ ስፉ
402	ዉሃ በትምህርት ቤት ዉስጥ ንዴት ትጠጣስህ/ትጠጪያስሽ?	1. በ ጄ 2. በራሴ የመጠጫ ቃ 3. በት/ቤቱ ቃ 4. አፈን ባንበ ሳይ በመደቀን 88. ሌሳ ካስ ይገስፅ---------- ----------		
403	ተማሪዎች መፀደጃ ቤቱን በአግባቡ ይጠቀማሉ?	1. አዎን 2. አይጠቀሙም		
404	መፀደጃ ቤቱን በአግባቡ ትጠቀማስህ/ሺ?	1. አዎን 2. አልጠቀምም		
405	ተማሪዎች መፀዳጃ ቤት ከተጠቀሙ በኋሳ ጃቸዉን ይ ጠባሉ?	1. አዎን 2. አይ ጠቡም		
406	መፀዳጃ ቤት ከተጠቀምክ/ሺ በሳሳ ጅህን/ሺን ት ጠባስህ/ሺ?	1. አዎን 2. አል ጠ ም		
407	የ406ኛዉ ጥያቄ አዎን ከሆነ ሳሙና ትጠቀማስህ/ሺ?	1. አዎን 2. አልጠቀምም		
408	የ407ኛዉ ጥያቄ አልጠቀምም ከሆነ ስምን?	1. ሳሙና ት/ቤቱ አያቀርብም 2. በግሌ ስመግዛት አልችልም 88. ሌሳ ካስ ይገስፅ----------		

409	ተማሪዉ ደረቅ ቆሻሻን በት/ቤት ዉስጥ ንዴት ያስወግዳል?	1. በየቦ ዉ በመጣል 2. በቆሻሻ ጉድገድ ዉስጥ 3. ሸንት ቤት ዉስጥ መጣል 88. ሌላ ካስ ይገለፅ----------		
410	አንተስ?	1. በየቦ ዉ በመጣል 2. በቆሻሻ ጉድገድ ዉስጥ 3. ሸንት ቤት ዉስጥ መጣል 88. ሌላ ካስ ይገለፅ----------		
411	ምግብ ከመመገብህ በፊት ጅህን/ሺን ሁልጊዜ በሳሙና መ ጠብ ጠቃሚ ይመስልሃል/ሻል?	1. አዎን 2. አላምንም 3. አላዉቅም		መልሱ አላምንም ከሆነ ወደ 501ኛው ጥያቄ ይ ስፍ
412	በሳሙና መ ጠብ ለምን ይጠቅማል?	1. ቆሻሻን በደንብ ለማስወገድ 2. ተቅማጥን ለመከላከል 88.ሌላ ካስ ይገለፅ----------		

1.2.4. የግል ንፅህናን አጠባበቅ

501	የግል ንፅህና የሚያጠቃልላቸዉ የትኞቹ ናቸዉ?	1. የፀጉር ንፅህና 2. የ ጅ ንፅህና 3. ጥፍርን ማሳጠር 4. ግር ንፅህና 5. የፊት ንፅህና 6. የጥርስ ንፅህና 7. የአጠቃላይ የሰዉነት ንፅህና 88. ሌላ ካስ ይገለፅ----------		
502	ጅህን ስት ጠብ/ስት ጠቢ ሣሙና ንዴት ትጠቀማለህ/ሺ?	1. ሁልጊዜ 2. አልፎ አልፎ 3. ጭራሽ አልጠቀምም		መልሱ አልጠቀምም/አልፎ አልፎ ከሆነ ወደ504ኛው ጥያቄ ይ ስፍ
503	ጅህን በሣሙና መቼ መቼ ነዉ የምት ጠበዉ/የምት ጠቢዉ?	1. ከምግብ በፊት 2. ከምግብ በሃላ 3. መፀዳጃ ቤት ከተጠቀምኩ በሃላ 88. ሌላ ካስ ይገለፅ----------		

504	ገሳህን/ሺን የት ት ጠሳስህ/ሺ?	1. ትምህርት ቤት 2. የህዝብ ገሳ መ ጠቢያ ዉስጥ 3. ቤት ዉስጥ 88.ሌሳ ካስ ይገስፅ----------		
505	ከግል ንፅህና ጉድስት የሚመጡ በሽ ዎች የትኞቹ ናቸዉ?	1. ተቅማጥ 2. የአይን በሽ 3. የጥርስ በሽ 4. የተስቦ በሽ 5. ከክ 88.ሌሳ ካስ ይገስፅ----------		
506	ትሳንትና ወይም ዛሬ ጅህን/ ጅሽን በሳሙና ጥበሃል/ሻል	1 አዎን 2. አል ጠብኩም 3. አሳስ ዉስም		መልሱ አል ጠብኩም ከሆነ ወደ 509ኛው ጥያቄ ይ ስፍ
507	የ506ኛዉ ጥያቄ መልሱ አዎን ከሆነ ስምን መ ጠብ አስፈስገህ/ሽ?	1. ከተቅማጥ በሽ ስመከሳከል 2. ቆሻሻን ከ ጅ ሳይ ስማስወገድ 3. አሳዉቅም 88.ሌሳ ካስ ይገስፅ----------		
508	ጅህን/ሽ ትሳንት ወይም ዛሬ ስት ጠብ ሳሙና ተጠቅመሃል/ሻል?	1. አዎን 2. አልተጠቀምኩም		
509	የ506ኛዉ ጥያቄ መልሱ አል ጠብኩም ከሆነ ስምን አል ጠብክም/ሽም?	1. መ ጠብያ ዉሃ የስም 2. ችግር ስስማያመጣ 3. ጠቃሚ ስሳልሆነ 88.ሌሳ ካስ ይገስፅ----------		

Annex-2

Questionnaire on Assessment of primary school WaSH initiatives in impacting hygienic behaviors of the students and their families.

Section 1.1. Background characteristics

No	Question	Response	Code	Skip to
101	Age in years			
102	Sex	1.M 2.F		
103	Type of school	1.Public 2.Private 3.Government		
104	Grade	1.1 - 4 2. 5 - 8		
105	Religion	1.Christian 2.Muslim 88.Others(Specify)		
106	Do your father read and write	1.Yes 2.No		
107	Do your mother read and write?	1.Yes 2.No		
108	Family monthly income	1.Less than 500 2.500 to 1000Birr 3.1000 to 1500 4..Above 1500 5.I don't know		

1.2 Water supply, sanitation and hygiene promotion

Section 1.2.1 Knowledge assessment

No	Question	Response	Code	Skip to
201	Can water be a source of disease transmission?	1.Yes 2.No 3.I don't think so		204 if answer is 2 or 3
202	What types of diseases are transmitted via water?	1.diarrhea 2.Skin disease 3.eye diseases 88.Others specify		
203	Which are those diseases transmitted as a result of water scarcity?	1.diarrhea 2.Skin disease 3.eye diseases 88.Others specify		
204	What are those things that contaminate your school water supply?	1.Broken pipes 2.Unclean hands 3.unclean materials 4.uncovered reservoir 88.Others specify		
205	Does your school water exposed to contamination	1.yes 2.No 3.I don't know		
206	Which one is a good solution to keep the school water supply clean?	1.Fix leak pipes 2.Prepare clean reservoirs 3.Use clean drinking materials		

		88.Others specify		
207	Have you ever learned about WASH	1.Yes 2.No 3.I don't remember		
208	Who taught you	1.Radio 2.Television 3.Newspaper 4. School 5. Health institution 6. Family 88.Others specify		
209	If the answer for question number 208 is choice 4, how is the education given?	1.Regularly 2.Incidental teaching 3.I don't know 88.Others specify		
210	What is the use of a latrine?	1.Tpo prevent disease 2.To prevent environmental pollution 3.To prevent odor 4.Privacy 88.Others specify		
211	What are the criteria that a school latrine should fulfill?	1.Aways clean 2.Unfavorable to fly breeding 3.Doesn't expose to accident 4.Doesn't have bad smell		
212	Do you think a latrine should have a hand washing facility?	1.Yes 2.No 3.I don't know		
213	If the answer for question number 212 is yes, what	1.To prevent diarrhea		

	is the use of the hand washing facility?	2.Good practice 3.To prevent eye disease 88.Others specify		
214	Do you think a latrine should be separated for boys and girls?	1.Yes 2.No		
215	Which are the solid wastes generated from schools?	1.paper 2.Left over food 3.grasses 4.Pieces of chalks 88.Others specify		
216	Which one is a solid waste disposal mechanism?	1.Disposing in to pit 2.Burning 88.Others specify		
217	Do you think a solid waste receptacle is necessary in each class?	1.Yes 2.No 3.I don’t know		
218	Have you ever tell to your family about personal and environmental hygiene?	1.Yes 2.Never		
219	If no to question 218, why?	1.They don’t listen to me 2.They will be angry at me 88.Others specify		

Section 1.2.2 Attitude of students on WASH

No	Question	Response	Code	Skip to
301	Is the water supply adequate to all of the students	1.Yes 2.No 3.I don't know		
302	Do you think hygiene education shall be given regularly at your school?	1.Yes 2.No		
303	Do you think you can influence the hygienic practices of your family?	1.Yes 2.No 3.I don't know		
304	If yes to q 303,how?	1.By teaching what I had learnt 2.Demonstration 88.Others specify		
305	What are the reasons why the students don't use the school latrines?	1.Bad odor 2.Not clean 3. No privacy 4.Exposes to accident		
306	How do you evaluate your school latrine?	1.Clean and good for use 2.Not good for use 3.I don't know		

Section 1.2.3 WASH Practice questions

No	Question	Response	Code	Skip to
401	Do you use the water in the school for washing your hands?	1.Yes 2.No		
402	How do you drink water in the school?	1.Hands 2.My own water container 3.School container 4.Directly by mouth 88.Others(Specify)		
403	Do students use the latrines properly?	1.Yes 2.No		
404	Do you properly use the latrine?	1.Yes 2.No		
405	Do students wash their hands after latrine use?	1.Yes 2.No		
406	Do you wash your hands after latrine use?	1.Yes 2.No		
407	If yes to question 406, do you use soap?	1.Yes 2.No		
408	If No to question 407, why?	1.the school doesn't provide soap 2.I can't buy by myself 88.Others specify		
409	How do the students dispose solid waste in the school?	1.Disposing everywhere 2. Into the pit 3.Into the latrine 88.Others specify		
410	How about you?	1.Disposing everywhere 2. Into the pit		

		3.Into the latrine 88.Others specify		
411	Do you think hand washing before eating is important?	1.Yes 2.No 3.I don't know		
412	What is the importance of hand washing with soap?	1.To avoid dirt 2.To prevent disease 88.Others specify		

Section 1.2.4 Personal hygiene practices

501	What does personal hygiene incorporates	1.Hair 2.hand 3.Nail cut 4.feet 5.Face 6.tooth 7.General body hygiene 88.Others specify		
502	How often do you use soap for hand washing?	1.Always 2.Sometimes 3 Never at all		
503	When do you wash your hands with soap?	1.Before eating 2.After eating 3. After latrine use 88.Others specify		
504	Where do you take a shower?	1.School 2.Public shower 3.At home 88.Others specify		
505	What are the diseases resulting from poor personal hygiene?	1.Diarrhea 2.Eyes disease 3.Tooth disease 4.Relapsing fever 5.Scabies		

		88.Others specify		
506	Did you wash your hands today or yesterday?	1.Yes 2.No		
507	If yes to question 506,why	1.To prevent from diarrhea 2.To avoid dirt from hands 3.I don't know 88.Others specify		
508	Do you use soap when your wash your hands yesterday or today?	1.yes 2.No		
509	If no to question 506, why?	1.No water 2.No problem if I don't 3.Not important 88.Others specify		

Annex-3-

ACIPH and UoG

Assessment of Primary school WASH initiatives in impacting the Hygienic practices of the students and their families in Lideta Sub-city

Observation Check list

Name of the Observer: _____
Date : _____
Time: _____
School name : _____
School Type : _____
Signature : _____

Please mark 'x' to the observation you had under the 'Yes' and 'No' column and try to briefly state if there are any remarks you wanted to add under the 'Remark' column.

	Item	Yes	No	Remark
	I. Water Supply			
624	Does the school has a water supply?			
625	Type of water source			
626	Does it have hand washing facilities?			
627	Type of hand washing facility (Standard WB, water trough type)			
628	How many functional faucets (Taps) does it have?			
629	Does the school have a shower service to the students?			
630	No of shower units?			
631	Is the water supply within the school compound?			
632	Is there any leakage or potential contaminants along the water pipe line?			
633	Is the water supply accessible to students all day long?			
634	Does the structural design appropriate for all age group and disabled students?			
635	Are there any water contaminants in the compound?			
636	Is there a reservoir? Capacity?			
637	Is the water supply adequate for all students			
	II.Sanitation			
638	Does the school has latrines?			
639	Type of latrines			
640	Functionality?			
641	How many squats are there for all the students?			
642	Are the latrines separated for boys and Girls?			
643	Is the separation within same block or different blocks?			
644	Is there a sign board indicating latrines for boys or girls?			
645	Are the latrines clean for next user?			

646	Does the latrines have odor problem?			
647	Are the latrines well-maintained?			
648	Does the latrine has a hand-washing facility?			
649	Do the students use the latrine?			
	IIII.Hygiene Promotion			
650	Does the school provide regular hygiene education?			
651	Is there a well-prepared health education material?			
652	Topics for health education?			
653	Does the school incorporate hygiene promotion in its educational curriculum?			
654	Do the students wash their hands after latrine use?			
655	Do they use soap for hand washing			
656	Do the students wash their hands before they eat in the school?			
657	Does the school has a mini-media			
658	Does the mini media passes a message on WASH?			

Grade 5
(n=40)

Declaration

I, the undersigned declare that this thesis is my original work in partial fulfillment of the requirement for the degree of Master of Public Health. I also declare that it has never been presented in this or any other university and that all resources and materials used in the thesis have been duly acknowledged

Student Name: _____

Signature: _____

Place of submission:_____

Date of submission: _____

This thesis has been submitted for examination with my approval as a university advisor.

Advisor Name:_____

Signature: _____

Date of submission: _____